

Original Article

Vaginectomy and laparoscopically assisted vaginal hysterectomy as adjunctive surgery for female-to-male transsexual reassignment: preliminary report

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Abstract

Objective: Reassignment surgery of the female-to-male transsexual is a rarely performed surgical procedure that should involve a gynecologist's consultation and expertise. This study examines the experience with this type of surgery at Baskent University Hospital, Ankara, Turkey, from the gynecologists' point of view. **Study design:** Eight patients underwent laparoscopically assisted vaginal hysterectomy, bilateral salpingo-oophorectomy and total vaginectomy, followed by phallic construction. Patients were followed up for 9 to 30 months post-surgery. **Results:** The average operative time for total vaginectomy and laparoscopically assisted vaginal hysterectomy and bilateral salpingo-oophorectomy was 2 h and 20 min. The estimated average blood loss was 250 ml. Other than one bladder perforation, which was repaired immediately and healed uneventfully, we encountered no operative or postoperative complications linked to the gynecologic surgery. **Conclusion:** Laparoscopy seems to be useful in female-to-male transsexual surgery in allowing the preservation of structures vital for phallic construction, such as inferior epigastric vessels and the rectus abdominis muscle. The application of vaginectomy awaits justification through long-term follow-up studies of transsexuals who have undergone colpocleisis. © 1999 Elsevier Science Ireland Ltd. All rights reserved.

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1. Introduction

Transsexualism is defined as “a disturbance of gender identity in which the person manifests, with constant and persistent conviction, the desire to live as a member of the opposite sex, and progressively takes steps to live in the opposite sex full time” [1]. The majority of modern behavioral scientists agree that a diagnosis of transsexualism is valid, and most believe it is virtually impossible to successfully revert a transsexual to his or her biologic sex through psychotherapy [2]. Therefore, reassignment surgery, in properly selected patients, is the best way to normalize life for these individuals.

The ultimate goal of reassignment surgery in female-to-male transsexuals is a functional phallus, thus in excising generative organs the gynecologic surgeon is advised to avoid injuring the structures vital for subsequent phalloplasty surgery [2]. Here we present our experience, as gynecologists, with adjunctive surgery for sexual reassignment of female-to-male transsexuals. Our procedures involve laparoscopically assisted vaginal hysterectomy and bilateral salpingo-oophorectomy, in conjunction with total vaginectomy, and were aimed at preventing injury to structures essential for phalloplasty.

2. Materials and methods

Surgical reassignment was performed in eight patients between May 1996 and January 1998. The mean age of

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these individuals was 30.4 years (range 23–36 years). All patients were selected by the Group for Gender Reassignment, consisting of clinical psychologists, psychiatrists, endocrinologists, urologists, and plastic surgeons. They were referred to us, as gynecologists, for the operation. Candidates for gender reassignment met Harry Benjamin International Gender Dysphoria Association Standards, which include documentation of long-term desire for sexual reassignment, participation in extensive counseling in a gender reassignment unit, living as a male, and receiving testosterone for at least 6 months [3].

Hormonal reassignment was initiated at least 1 year prior to the operation by the Group for Gender Reassignment. This enabled patient and therapist to address the issue of psychologic adaptability to a changing appearance. The therapy involved the parenteral administration of a slow-release preparation of androgen (testosterone 250 mg) at alternate weeks for at least a year. The responses to testosterone therapy were significant hirsutism, clitoral enlargement, and deepening of the voice. All patients had undergone mastectomy and chest contouring surgery accompanied by proper nipple placement. Basic laboratory studies were carried out before the reassignment surgery.

All patients were virginal. Laparoscopically assisted vaginal hysterectomy and bilateral salpingo-oophorectomy were performed in conjunction with total vaginectomy in all cases. A 10 mm infraumbilical incision accommodated the telescope, and two 5 mm incisions were made lateral to the epigastric vessels on each side to allow the passage of other instruments. Each infundibulopelvic ligament was cauterized with a bipolar cauterizing forceps and then cut with scissors. The round ligament on each side was

similarly cauterized and cut. The broad ligament peritoneum was then cut to the lateral edge of the uterus. Meanwhile a second surgeon began to perform the vaginectomy, including the hymenal ring. Rectovaginal, vesicovaginal, and two paravaginal planes were dissected, and the bladder pillars and rectal pillars were identified. The planes were dissected and the pillars were cut to the level of the cervix and ligated. After identifying the endopelvic fascia covering the cervix, the bladder was advanced cephalad, and both anterior and posterior cul-de-sacs were entered. The cardinal and sacrouterine ligaments were cut and ligated, and finally the uterine arteries were severed and ligated. Traction on the fundus then withdrew the vagina, uterus and its attached tubes and ovaries from the introitus (Fig. 1). The vaginal site was closed in a circular fashion with absorbable sutures down to the introitus. After completing excision of the female generative organs, plastic surgeons performed phallic construction using a radial forearm flap. This completed the reassignment surgery in one stage.

3. Results

The average operative time for laparoscopically assisted vaginal hysterectomy, bilateral salpingo-oophorectomy, and total vaginectomy was 2 h and 20 min. However, the total duration of the entire reassignment surgery was 14 ± 2 h. Estimated blood loss for the laparoscopically assisted vaginal hysterectomy, bilateral salpingo-oophorectomy and total vaginectomy was 250 ± 100 ml. The only operative complication was a bladder perforation in the first patient



Fig. 1. A specimen excised en block that includes the vagina, uterus, tubes and ovaries.

operated; the defect was repaired immediately and healed uneventfully. We encountered no postoperative complications linked to the gynecologic procedure itself, however two of eight patients developed deep vein thrombosis. This was likely due to the long duration of the one-stage reassignment surgery. The patients were followed up for 9 to 30 months post-surgery.

4. Comment

Transsexuals feel trapped in the body of the wrong sex, and desire hormonal and surgical reassignment to function socially in their desired gender. For this reason, most patients wish to have their uterus and ovaries removed as soon as possible to avoid anxiety of breakthrough menstrual bleeding and to reduce estrogen production, thereby allowing exogenous androgen therapy to flourish. In the transition from female to male, the transsexual must undergo total hysterectomy and bilateral salpingo-oophorectomy. In performing the hysterectomy, the gynecologic surgeon has been advised to use a vertical, lower abdominal incision in order to avoid injuring the inferior epigastric vessels and the rectus abdominis muscle, since these must be preserved for the subsequent phalloplasty surgery [2]. The advice with regard to a midline abdominal incision, although surgically well-intended, is a problem for the patient since a vertical incision is not cosmetically pleasing. Recent advances in operative laparoscopic techniques have brought new possibilities that enable surgeons to avoid major incisions entirely. Using one such technique, laparoscopically assisted vaginal hysterectomy with bilateral salpingo-oophorectomy, it is possible to avoid large incisions and preserve the essential structures for phalloplasty [4]. Our experience supports the use of this technique.

Prior to phalloplasty, the female-to-male transsexual undergoes a hysterectomy and bilateral salpingo-oophorectomy. However, it has been advised that the vagina be left in situ and obliterated with sutures [4,5]. The spared vaginal mucosa has been used for extension of the urethra to the base of the clitoris in order to reduce fistula formation [5]. However, urethral lengthening can be achieved using the labia minora supported by a bulbocavernosus flap, and this provides a well-vascularized

anastomosis site. Apart from one case of prostatic carcinoma in a male-to-female transsexual, there are no long-term data on the effects of cross-sex hormonal stimulation of the surgically spared generative tissues [6]. It seems rational to remove the last vestige of feminization, the vagina, in conjunction with hysterectomy in these patients.

The technical details, complications, and functional results of the phallic reconstruction have not been mentioned here, since this part of the reassignment surgery is performed by the plastic surgeons and is not within the scope of this article.

Laparoscopically assisted vaginal hysterectomy, with the removal of both tubes and ovaries, is a procedure that preserves the tissues vital for reassignment surgery in female-to-male transsexuals. However, the usefulness of the surgical modification of adding total vaginectomy to the procedure will be more clearly defined through the long-term outcomes of patients who have undergone colpocleisis.

5. Condensation

Laparoscopically assisted vaginal hysterectomy and bilateral salpingo-oophorectomy constitute a safe method for preserving structures vital for reassignment surgery in female-to-male transsexuals. The application of vaginectomy awaits justification through long-term follow-up studies.

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